

## **CHILDREN'S GAME**

### **FIELD OF THE INVENTION**

The present invention relates generally as indicated to a children's game and, more particularly, to a children's game having a station whereat a particular task is to be accomplished.

### **BACKGROUND OF THE INVENTION**

5 Children enjoy games that allow them to compete with others while trying to accomplish a certain task. For an example, children enjoy "miniature" sports games such as basketball, wherein a ball is dropped through a station (e.g., a basketball hoop). For another example, children enjoy on-going games of tag,  
10 wherein each child attempts to contact a station (e.g., a base) prior to the other children. These types of games teach a child to be quick on his/her feet, develop hand-eye coordination, and/or enhance gross motor skills. However, recurring problems with these games include the children's frustration (and/or fights) when trying to accurately keep score, the need for parental participation  
15 for time-based competitions, the limited ability to achieve the randomness required to keep a game interesting, and/or the lack of an ultimate output at the conclusion of the game.

### **SUMMARY OF THE INVENTION**

The present invention provides a game that eliminates the child's need to  
20 accurately keep score, minimizes the need for parental participation for time-based competitions, can achieve the randomness required to keep a game interesting, and/or generates an "award" output at the conclusion of the game. These things are accomplished by the interaction of the game's stations with each other, whereby score-keeping information, output-generating instructions,  
25 etc. can be conveyed to each station of the game.

More particularly, the present invention provides a game comprising a plurality of stations, each of which recognizes when a task is accomplished therewith and communicates this accomplishment to at least one other station.

In this manner, at least one of the stations can gather information from one or more of the other stations for score-keeping and other purposes. An output can be generated by one, some, or all of the stations based on an accomplishment with a particular station and/or based on the information gathered from all of the stations. The communication between/among the stations is preferably performed wirelessly by infrared light techniques, radio frequency techniques, and/or ultra high-frequency sound techniques.

In one embodiment of the invention, the game comprises a first station, a second station, and a ball-like object. One child/team attempts to affiliate the ball-like object with the first station and another child/team attempts to affiliate the ball-like object with the second station. In other words, the task is accomplished by affiliating the ball-like object with the assigned station. The first station (and/or the second station) wirelessly communicates to the other station, gathers information pertaining to affiliations at both stations, and generates an output based on the gathered information. The ball can be affiliated with the station by being positioned within a net or, more particularly, by passing through the net. For example, the first station and the second station can each resemble a basket hoop with a net, and the ball can be affiliated with the station by passing through the net.

In another embodiment of the invention, the game comprises a plurality of stations (e.g., four bases) and a plurality of identification items (e.g., three identification items). Each child/team carries an identification item and attempts to be the first to contact (e.g., "tag") the currently relevant station. The stations each recognize when contact has been made therewith and identify the identification item which made such contact. Specifically, each station comprises a reader (e.g. radio frequency or bar code), and each identification item comprises an identification tag that can be read by the reader. The identification item can comprise a wearable garment (e.g., a glove, a shoe, etc.), and each child/team can carry the identification item by wearing it.

These and other features of the invention are fully described and particularly pointed out in the claims. The following description and annexed drawings set forth in detail certain illustrative embodiments of the invention,

these embodiments being indicative of but a few of the various ways in which the principles of the invention may be employed.

### DRAWINGS

Figure 1 is a perspective view of a game 10 according to one  
5 embodiment of the invention.

Figure 2 is a schematic diagram of the interactive device of the game 10.

Figure 3 is a perspective view of a game 110 according to another  
embodiment of the invention.

Figure 4 is a schematic diagram of the interactive device of the game  
10 110.

Figure 5 is a schematic diagram of an identification portion of the  
interactive device according to another embodiment of the invention.

### DETAILED DESCRIPTION

Referring now to the drawings, and initially to Figure 1, a game 10  
15 according to the present invention is shown. The game 10 comprises a first  
station 12A and a second station 12B which, in the illustrated embodiment, each  
resemble a basketball hoop. To this end, the station 12A comprises a stand  
14A, a backboard 16A and a net 18A, and the station 12B comprises a stand  
14B, a backboard 16B and a net 18B. A basketball 20 is provided for insertion  
20 through the nets 18. It may be noted that the stations 12A and 12B could  
instead resemble soccer nets, hockey baskets, football posts, and/or any other  
analogous stations that require a task to be accomplished therewith. In any  
event, the stations 12 can be placed closer together for younger children (e.g.,  
five to ten feet apart) and can be placed farther apart for older children (e.g.,  
25 twenty to thirty feet apart).

The game 10 is designed for two children (or two teams), with the first  
child/team inserting the basketball through the first station 12A to earn points  
and the second child/team inserting the basketball through the second station  
12B to earn points. A sensor 40A is provided on the first station 12A to sense  
30 when the basketball 20 passes through the net 18A, and a sensor 40B is

provided on the second station 12B to sense when the basketball 20 passes through the net 18B. In the illustrated embodiment, the sensors 40 are each mechanical switches that are pushed down upon insertion of the basketball 20 into the nets 18; however, other types of sensors (e.g., radio frequency, ultraviolet, proximity, etc.) are certainly possible with and contemplated by the present invention.

A display 42A is provided on the backboard 16A of the first station 12A, and a display 42B is provided on the backboard 16B of the second station 12B. These displays 42 can each visually present information corresponding to the status of the game. For example, the displays 42 can present the number of baskets scored at that particular station 12, show the number of baskets scored at each station 12, and/or provide a clock for time-based competitions or competitive aspects (e.g., shot clock, game clock, "most baskets in thirty seconds," etc.). Each station 12 can also include a speaker 44 for audibly conveying, and/or a light source 46 for visually conveying, certain game information.

Referring now to Figure 2, the interactive device 50A for the first station 12A and the interactive device 50B for the second station 12B are schematically illustrated. The device 50A includes a power supply 52A (e.g., a battery), a processor 54A, an interactive port 56A, a start-game switch 58A, and a mode selector 60A. The device 50B includes a power supply 52B (e.g., a battery), a processor 54B, and an interactive port 56B. When the power supply 52 is turned on for each station 12, the processors 54 are powered to perform the necessary calculations and time-keeping and to generate the appropriate outputs for particular inputs. Specifically, for example, the processor 54 receives a signal from the sensor 40 when a basket has been made, and it correspondingly updates the score on the display 42. If the station 12 is to generate an appropriate response upon the accomplishment of this task, the processor 54 instructs the output components (e.g., display 42, speaker 44, and/or light source 46) accordingly.

The stations 12A and 12B wirelessly communicate (*i.e.*, wirelessly interact) with each other via the interactive ports 56A and 56B. In the illustrated

embodiment, the ports 56 employ infrared technology to achieve this interaction. That being said, other interaction techniques (wireless and otherwise) are possible with, and contemplated by, the present invention. For an example, the IR ports 56 each could be replaced with transceivers in order to accomplish the station-to-station interaction with radio frequency techniques. For another example, ultra high-frequency sound conveying techniques (e.g., wherein a high-frequency sound that humans cannot hear is sent out by the station(s) 12) could be used to accomplish station-to-station interaction. While non-wireless interaction could be used and is within the scope of the invention, it is noted that wireless techniques are preferred as they provide a cleaner play space and an easier game set-up.

The interactive ports 56 allow the first station 12A to communicate input information (e.g., the scoring of a basket at this station) to the second station 12B and/or allows the second station 12B to communicate input information to the first station 12A. In the illustrated embodiment, the processor 54A of the first station 12A coordinates the inter-station outputs. Specifically, the processor 54A calculates total game information and time periods, and provides corresponding output instructions to its output components (e.g. components 42A, 44A and 46A) and also to the processor 54B of the second station 12B (via the interactive ports 56). The processor 54B of the second station 12B then conveys these output instructions to its output components (e.g., components 42B, 44B, and 46B). It may be noted that, instead of the first station 12A alone performing the inter-station coordinating functions, these functions could be performed by the second station 12B and/or by both stations 12A and 12B.

In this manner, the game 10 can monitor/record which child/team is winning the game without the children (or parents) having to keep score manually. Also, the game 10 can acknowledge a winner at the end of the match by, for example, the winning station 12 playing a victory song (via the speakers 44) and/or blinking lights (via the light source 46). The game 10 further provides the flexibility to play a variety of different games via the mode selector 60. For example, the first child/team accomplishing a predetermined set of points (e.g.,

ten points) would win the game, or the child/team scoring the most points in a set time period (e.g., thirty seconds) would win the game.

The interaction between the stations 12A and 12B in the game 10 teaches children to play offensively and defensively, a skill that is needed in so many "full size" games. It also takes the worry out of keeping track of scores and puts emphasis into just playing the sport, while still bringing a full court experience down to the children's level.

Referring now to Figure 3, another game 110 according to another embodiment of the invention is shown. The game 110 comprises a first station 10 112A, a second station 112B, a third station 112C, and a fourth station 112D. In the illustrated embodiment, the stations are designed for playing "tag," wherein the children race to a certain station 112 and accomplish the desired task by being the first one to contact this station 112. The stations 112 can be placed closer together for younger children (e.g., five to ten feet apart) and can be placed farther apart for older children (e.g., twenty to thirty feet apart).

The children each wear or carry an identification item 120/122/124 (e.g., a glove in the illustrated embodiment) and contact the appropriate station 112 with this item. Specifically, one child wears the identification item 120, another child wears the identification item 122, another child wears the identification item 124, etc. Each item 120/122/124 includes a unique identification tag 20 126/128/130, which identifies it and distinguishes it from the other items. Preferably, each identification item 120/122/124 is associated with different easily appreciated insignia, such as a color (e.g., one red glove red, one yellow glove, one blue glove, etc.), a numeral listed on the item (e.g., #1 glove, #2 glove, # 3 glove, etc), and/or a popular character on the item (e.g., horse glove, 25 cow glove, cat glove, etc.).

The game 110 can be designed for two or more children (or two or more teams) and can be designed to be played with two or more stations 112. The number of stations 112 does not have to correspond to the number of players, and the number of players is limited only by the number of identification items 30 available. Accordingly, more or less than the four stations 112 could be provided in the game 110 so as to increase or decrease the degree of difficulty,

and/or more or fewer than three identification items 120/122/124 could be provided so as to increase or decrease potential players. Also, the game 110 can be played with fewer children than identification items 120/122/124, whereby it may be desirable to provide a plurality of such items so as to not limit participation at, for example, a birthday party or other event. Additionally or  
5 alternatively, when the game 110 is to be played in a team format, each member of a particular team could wear an identification item with the same identification tag 126/128/130. The present invention also contemplates games wherein one child plays at a time to beat or match his/her own personal best and/or that of  
10 another child.

A reader 140 is provided in each station 112 (specifically, a reader 140A is provided in the station 112A, a reader 140B is provided in the station 112B, a reader 140C is provided in the station 112C, and a reader 140D is provided in the station 112D) to sense what identification item 120/122/124 is the first to  
15 contact the station 112. Each station 112 can also include a speaker 144 for audibly conveying certain game information and/or a light source 146 for visually conveying certain game information. Although not shown in the illustrated embodiment, one or more of the stations 112 could include a display to visually present information corresponding to the status of the game and/or relevant time  
20 information.

Referring now to Figure 4, the interactive devices 150A/150B/150C/150D for the stations 112A/112B/112C/112D, respectively, are schematically shown. Each device 150 includes a power supply 152 (e.g., a battery), a processor 154, and an interactive port 156. The first station 112A also includes a start-game  
25 switch 158A and a mode selector 160A. When the power supply 152 is turned on for each station 112, the processors 154 are powered to generate the appropriate outputs for particular inputs. Specifically, when the processor 154 receives a signal from a reader 140 that contact has been made with this station 112, it can randomly select another station. The children can be signaled (e.g.,  
30 audibly through the speaker 144 and/or visually through the light source 146) that the previously selected station 112 has been "tagged" and indicate the "next" selected station 112 that they should now be running towards.

The stations 112 wirelessly communicate (*i.e.*, wirelessly interact) among themselves via the interactive ports 156, which can be the same as, similar to, or different from the interactive ports 56 of the game 10. Also, as with game 10, the processor 154A of the first station 112A can coordinate the inter-station  
5 outputs by doing the necessary calculations and/or providing the appropriate output instructions to each of the stations 112.

The identification tag 126 includes a receiver 172, an integrated circuit 174 (which stores encoded identification information), and a transmitter 176. The identification tag 128 includes a similar receiver 178, integrated circuit 180,  
10 and transmitter 182; and the identification tag 130 includes a similar receiver 184, integrated circuit 186, and transmitter 188. The readers 140 each include an antenna 190 and a decoding transceiver 192.

When the power supply 152 for a station 112 is turned on, the reader's transceiver 192 emits an activation signal, which is broadcast by the antenna  
15 190. Once an identification item 120/122/124 passes through the electro-magnetic field created by the broadcast (*e.g.*, when the identification item contacts the station 112), the activation signal is received by the radio frequency receiver 172/178/184. Contact can be recognized by the broadcast field being such that contact is necessary for receipt of the activation signal. Alternatively, a  
20 proximity sensor can be provided to confirm that contact has occurred.

Upon receipt of the activation signal by the receiver 172/178/184, the integrated circuit 174/180/186 is then powered, and the stored encoded identification information (*e.g.*, a 32 bit word or 128 bit word) is transmitted and received by the reader's transceiver 192. The transceiver 192 decodes the  
25 transmitted identification information and sends it to the processor 154, whereat it acts like a "key" to a database of information stored on the processor. Thus, the reader 140 reads the identification information from a particular tag 126/128/130 when the corresponding identification item 120/122/124 contacts the station 112.

30 Alternatively, and as is shown in Figure 5, the reader 140 could comprise a bar code reader, and the tag 126/128/130 could comprise a bar code printed



on the identification item 120/122/124. Moreover, other types of suitable identification systems could be used.

In either or any event, the game 110 can determine which child was the first to contact the station 112 and monitor/record this information as the game progresses. The game 110 can also monitor/record which child/team is winning the game without the children (or parents) having to do so manually. Additionally, the game 110 can acknowledge a winner at the end of a match by one, a plurality, or all of the stations playing a victory song (via the speaker 144) and/or blinking lights (via the light source 146).

The game 110 further provides the flexibility to play a variety of different games via the mode selector 160. For example, the accomplishment by the first child/team of a predetermined set of points (e.g., five points) would win the game, or the child/team scoring the most points in a set time period (e.g., ten minutes) would win the game. Other modes could include "repeat the pattern" (wherein each child has to duplicate a pattern of contacting the stations in a particular order) and/or "guess the station" (wherein each child gets three chances to pick the correct station). With particular reference to the latter two game modes, the stations 112 can be designed to call each player for their turn to attempt to repeat the pattern or guess the station. In any event, the children do plenty of running and are encouraged to think quickly on their feet and to react to a random series of events.

One may now appreciate that the present invention provides a game that eliminates the child's need to accurately keep score, minimizes the need for parental participation for time-based competitions, can achieve the randomness required to keep a game interesting, and/or generates an "award" output at the conclusion of the game. Although the invention has been shown and described with respect to certain preferred embodiments, it is evident that equivalent and obvious alterations and modifications will occur to others skilled in the art upon the reading and understanding of this specification. The present invention includes all such alterations and modifications.